

The diagram illustrates a location estimation system. A central star (10) represents the target. Three base stations, represented by pentagons (12, 13, 15), are positioned around the target. Dashed lines indicate the signal paths from the target to the base stations. Solid lines represent the Time of Arrival (TOA) measurements being sent to a Mobile Location Center (MLC), represented by a large rectangle (19). The TOA measurements are labeled TOA1 (from base station 12), TOA2 (from base station 15), and TOA3 (from base station 13). The MLC processes these measurements to produce a LOCATION ESTIMATE.

FIG. 1
PRIOR ART

The diagram illustrates a system for location estimation based on Time of Arrival (TOA) measurements. It features a central Mobile Location Client (MLC) block. Three base stations, labeled 20, 21, and 22, are positioned around the MLC. Base station 20 is a star-shaped symbol, while 21 and 22 are triangles. Each base station is connected to the MLC via a solid line representing a communication link. The MLC also receives input from a block labeled 'TOA*1, TOA*3' and sends output to a block labeled 'TOA*2'. The MLC outputs a 'LOCATION ESTIMATE' signal. The diagram also shows a network of dashed lines connecting the base stations and the MLC, with labels 23, 24, 25, and 26 indicating specific signal paths or components. The MLC block is labeled 'MLC' and has a reference number 29 pointing to its input side.

FIG. 2
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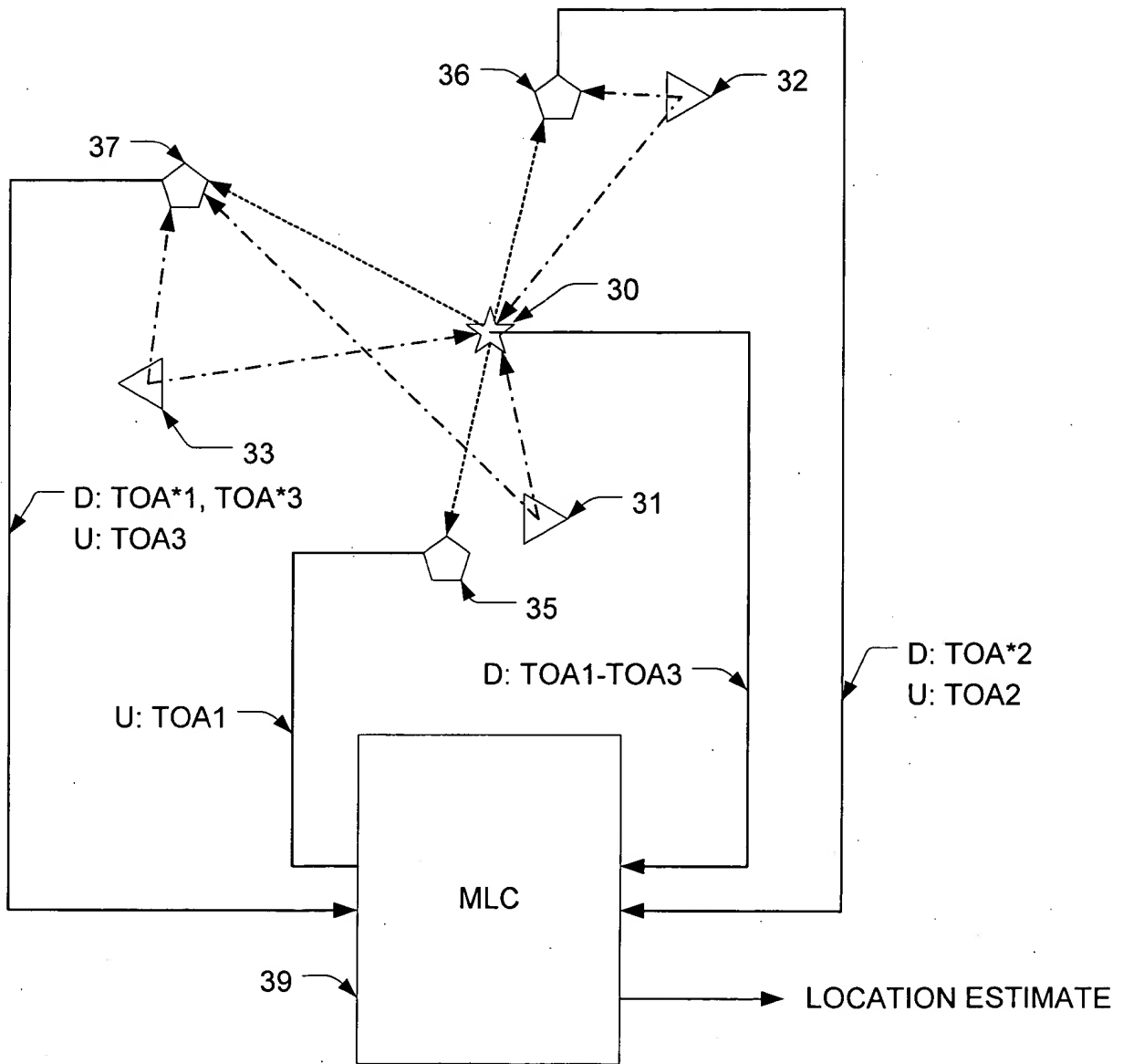


FIG. 3

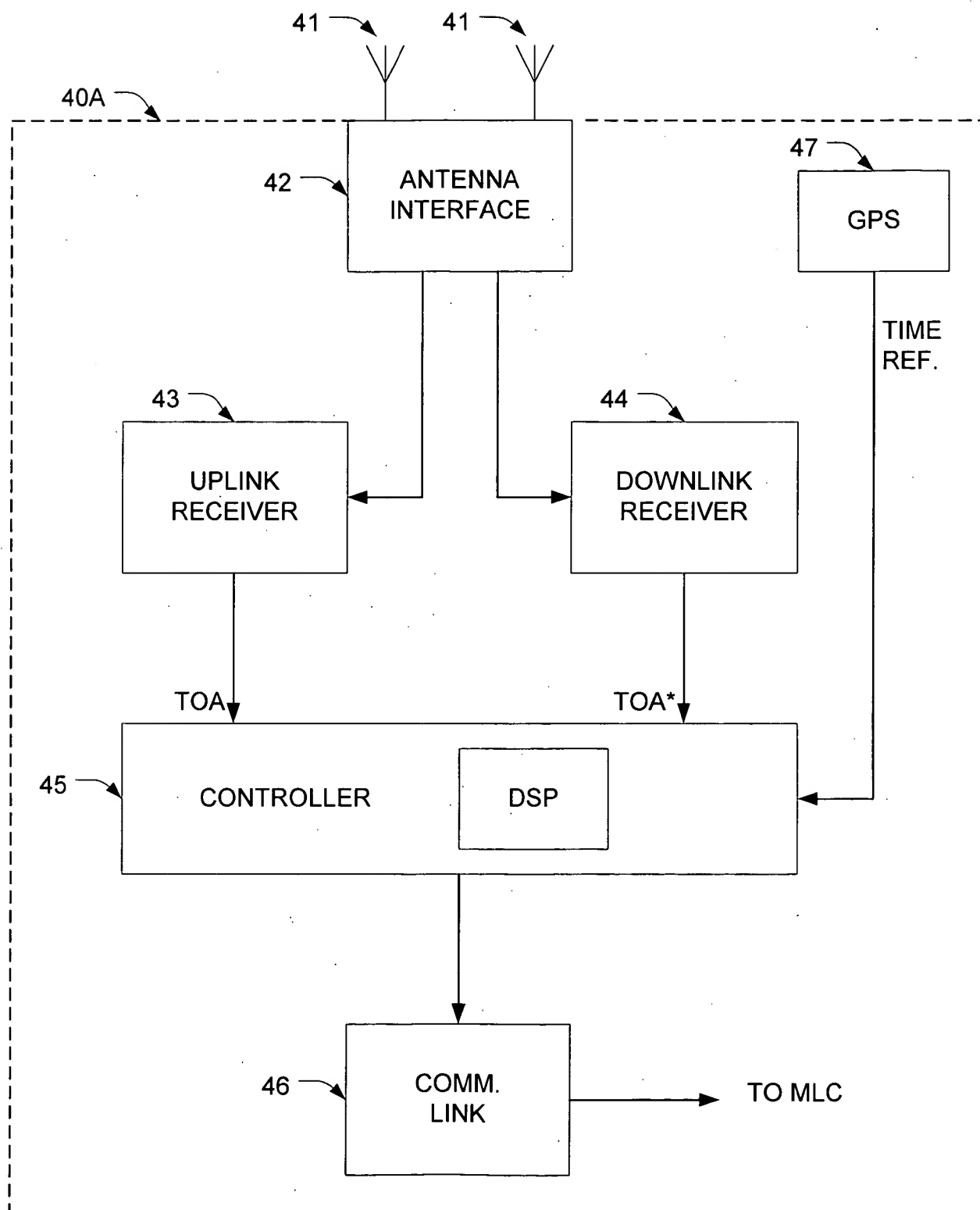


FIG. 4A

The diagram illustrates the internal components of a mobile station (40B). At the top, two antennas (41) are connected to an ANTENNA INTERFACE (42). The interface is connected to two receiver chains. The UPLINK RECEIVER chain includes a TDMA UL RCVR, a GSM UL RCVR, and an AMPS UL RCVR (43C). The DOWNLINK RECEIVER chain includes a TDMA DL RCVR, a GSM DL RCVR, and an AMPS DL RCVR (44C). The UPLINK RECEIVER (43A) outputs a TOA signal to the CONTROLLER (45). The DOWNLINK RECEIVER (44A) outputs a TOA* signal to the CONTROLLER. The CONTROLLER (45) contains a DSP and is connected to a COMM. LINK (46C). The COMM. LINK is also connected to the ANTENNA INTERFACE (42) and the GPS (47). The GPS (47) provides a TIME REF. signal to the CONTROLLER. The COMM. LINK outputs a signal TO MLC.

FIG. 4B

1. **What is the purpose of the study?**
 2. **What are the research objectives?**
 3. **What is the research methodology?**
 4. **What are the results of the study?**
 5. **What are the conclusions of the study?**
 6. **What are the implications of the study?**
 7. **What are the limitations of the study?**
 8. **What are the future research directions?**
 9. **What are the key findings of the study?**
 10. **What are the main contributions of the study?**
 11. **What are the practical applications of the study?**
 12. **What are the theoretical contributions of the study?**
 13. **What are the policy implications of the study?**
 14. **What are the ethical considerations of the study?**
 15. **What are the funding sources of the study?**
 16. **What are the acknowledgments of the study?**
 17. **What are the references of the study?**
 18. **What are the appendices of the study?**
 19. **What are the glossaries of the study?**
 20. **What are the footnotes of the study?**
 21. **What are the endnotes of the study?**
 22. **What are the index of the study?**
 23. **What are the tables of the study?**
 24. **What are the figures of the study?**
 25. **What are the equations of the study?**
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 27. **What are the symbols of the study?**
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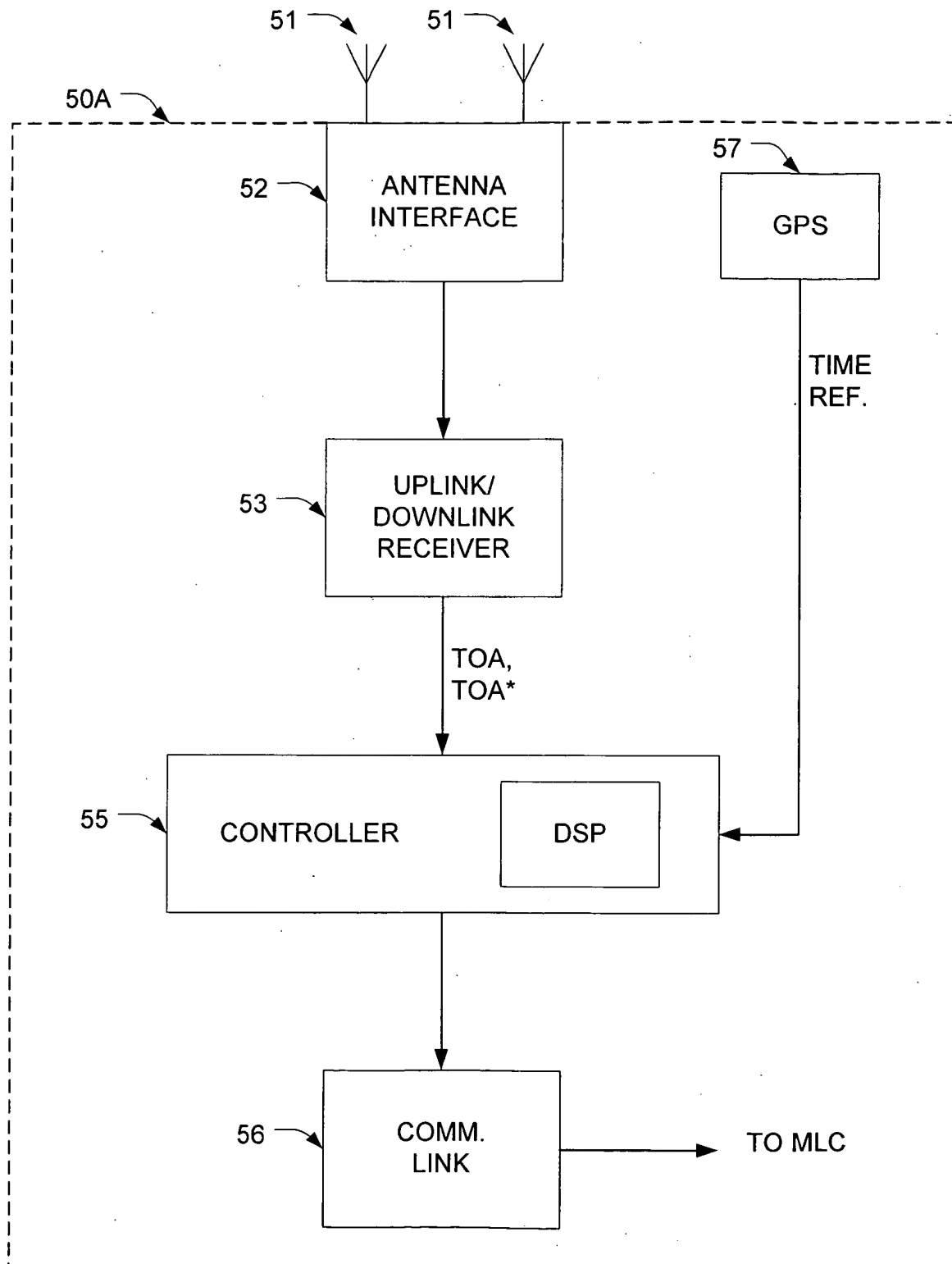


FIG. 5A

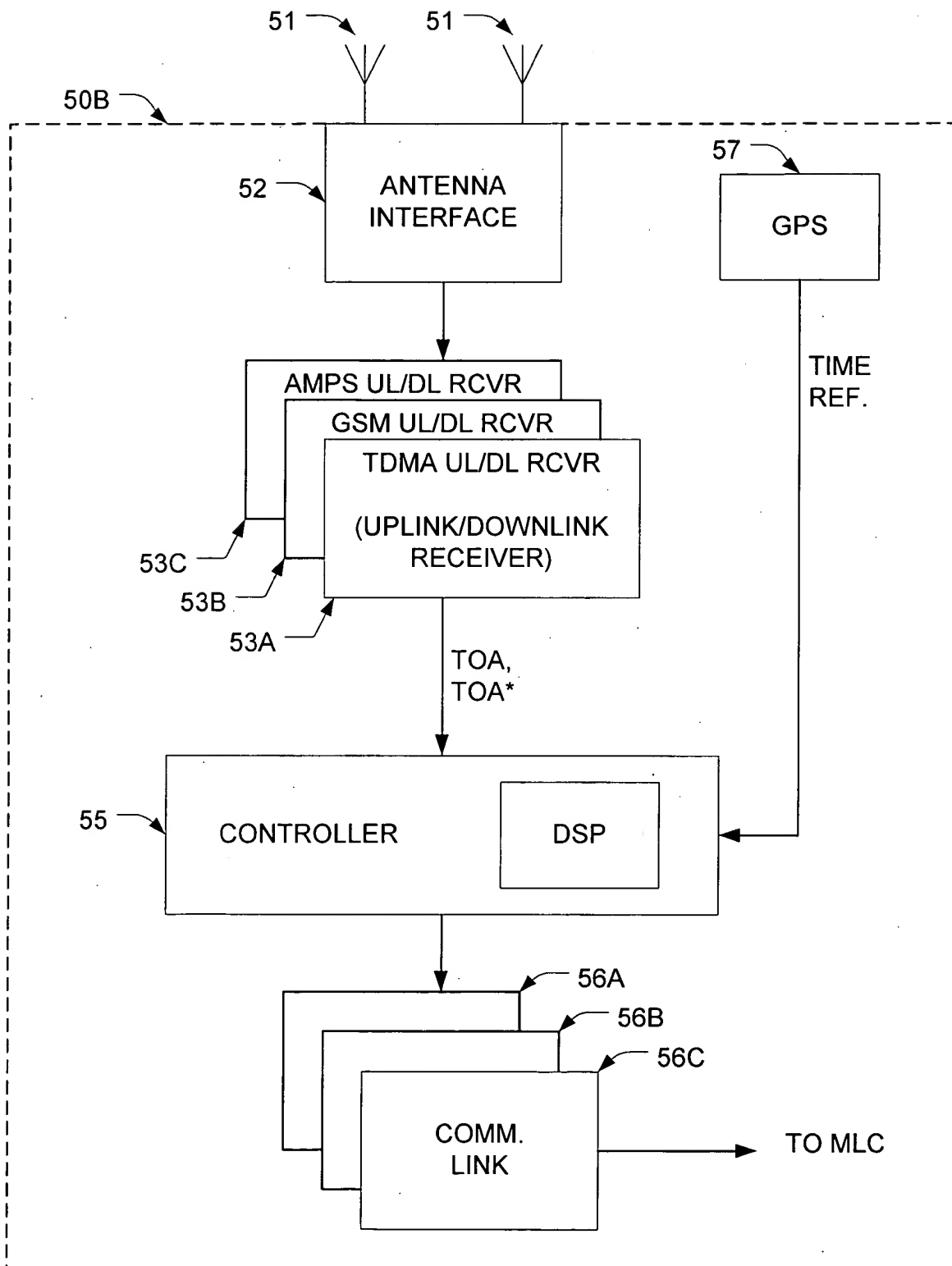


FIG. 5B

A diagram showing a four-lobed cross-section, similar to a four-petaled flower, with a central star-shaped region labeled 60. Four dashed lines with arrows originate from the central star and point towards four specific locations: 61 (top right), 62 (bottom left), 65 (bottom right), and 66 (top left). Each of these locations is marked with a small triangle. Additionally, there are two curved lines labeled 68 and 69, and a dashed line labeled 62 connecting the bottom left triangle to the central star.

FIG. 6